HERITAGE THERMAL SERVICES
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OHSAS 18001: 2007
ISO 14001: 2004
ISO 9001: 2008

January 31, 2017

VIA UPS & OEPA AIR SERVICES

Mr. Erik Bewley
OEPA-DAPC-NEDO
2110 E. Aurora Road
Twinsburg, OH 44087

Mr. George Czerniak
U.S. EPA Region V
Mail Code AE-17J
77 West Jackson
Chicago, IL 60604

RE: HERITAGE THERMAL SERVICES
SEMI-ANNUAL STARTUP, SHUTDOWN, AND MALFUNCTION REPORT &
SEMI-ANNUAL EXCESS EMISSIONS AND CMS REPORT

Greetings:

Please find enclosed a written report entitled *Semi-Annual Startup, Shutdown, and Malfunction Report* and *Semi-Annual Excess Emission and CMS Report* for Heritage Thermal Services. These reports are required by 40 CFR 63.10 and cover the time period of **July 1, 2016 through December 31, 2016.**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are certain penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Thank you and if you have any questions or comments, please call me at the above number.

Sincerely,

Stewart Fletcher
General Manager
Heritage Thermal Services

SEMI-ANNUAL STARTUP, SHUTDOWN, AND MALFUNCTION REPORT
&
SEMI-ANNUAL EXCESS EMISSION AND CMS REPORT

For

Heritage Thermal Services

January 31, 2017

Section I – General Information

A. Facility Information

Facility ID:	02-15-02-0233
Responsible Official's Name / Title:	Stewart Fletcher General Manager
Street Address:	1250 Saint George Street
City:	East Liverpool
State:	Ohio
Zip Code:	43920
Facility Name:	Heritage Thermal Services
Facility Local Contact Name:	Vincent Waggle Environmental Engineer

B. Relevant standard(s) or other requirement(s) that is/are the basis for this report:

63.10(d)(5)(i) – Periodic Startup, Shutdown, and Malfunction Reports

C. Are you requesting a waiver of recordkeeping and/or reporting requirements under the applicable relevant standard(s) in conjunction with this report?

☐ Yes ☒ No

If you answered yes, you must submit the application for a waiver of recordkeeping and/or reporting requirements together with this report. The application for waiver should include whatever information you consider useful to convince the Administrator that a waiver of recordkeeping or recording is warranted. (63.10(f)(3)

Section II – Certification

Based upon information and belief formed after a reasonable inquiry, I as a responsible official of the above-mentioned facility, certify the information contained in this report is accurate and true to the best of my knowledge.

Stewart Fletcher, General Manager

Signature: _____ Date: 1/30/17

Section III – Startup, Shutdown, and Malfunction Reports

A. Startup, Shutdown, or Malfunction Actions

All actions taken by Heritage Thermal Services during startup, shutdown, or malfunction events during the reporting period of **July 1, 2016 through December 31, 2016** were consistent with the procedures specified in the facility's Startup, Shutdown, and Malfunction Plan.

B. Malfunctions

Please find in the table below a list of each malfunction, the durations, and a brief description of the type of malfunction that occurred during the reporting period of **July 1, 2016 through December 31, 2016.**

See next page for completed table

Name	Start Time	End Time	Duration (min)	Cause (report)	Cause Description	Corrective Actions
Lance Atomization	7/7/2016 19:03	7/7/2016 19:14	11.25	Malfunction Power Failure	Lightning strike caused brief power loss and shutdown.	Regained power. Restarted unit.
RJ DP	7/7/2016 19:07	7/7/2016 20:32	85.00	Malfunction Power Failure	Lightning strike caused brief power loss and shutdown.	Regained power. Restarted unit.
SDA ECIS Flow	7/7/2016 19:14	7/7/2016 20:34	80.05	Malfunction Power Failure	Lightning strike caused brief power loss and shutdown.	Regained power. Restarted unit.
Scrubber ECIS Flow	7/7/2016 19:17	7/7/2016 20:32	74.98	Malfunction Power Failure	Lightning strike caused brief power loss and shutdown.	Regained power. Restarted unit.
SCC Temperature	7/7/2016 19:20	7/7/2016 20:22	61.92	Malfunction Power Failure	Lightning strike caused brief power loss and shutdown.	Regained power. Restarted unit.
Kiln Temperature	7/7/2016 19:24	7/7/2016 20:31	67.62	Malfunction Power Failure	Lightning strike caused brief power loss and shutdown.	Regained power. Restarted unit.
RJ Flow	7/7/2016 19:27	7/7/2016 20:01	34.25	Malfunction Power Failure	Lightning strike caused brief power loss and shutdown.	Regained power. Restarted unit.
THC	7/8/2016 10:43	7/8/2016 11:33	50.13	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restart unit. Review waste feeds.
THC	7/9/2016 12:06	7/9/2016 12:07	0.58	Malfunction Data Logger	CEM Computers overlapped causing duplicate values	Corrected Data
THC	7/10/2016 9:33	7/10/2016 10:35	61.17	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restart unit. Review waste feeds.
** The previously listed 10 malfunctions occurred within a 60-day block period and have been reviewed in accordance with 63.1206(c)(2)(v)(3)(ii). Some OPL exceedances have been counted as a singular malfunction because they were the result of single initiating malfunction. The power failure on 7/7/16, caused a number of OPL events and was the result of a lightning strike. Upon review of the individual malfunctions, HTS has determined that these 10 events were not the result of a common problem and no resulting changes have been made to the SSMP.						
THC	7/19/2016 13:54	7/19/2016 14:26	31.28	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restart unit. Reduce charge size as precaution.
SCC Pressure	7/26/2016 10:26	7/26/2016 10:26	0.15	Malfunction Control Equipment	Scrubber plugging and controller malfunction caused uncontrolled pressure spikes.	Shutdown unit for repairs.
SCC Pressure	7/27/2016 2:13	7/27/2016 2:13	0.02	Malfunction Control Equipment	Scrubber plugging and controller malfunction caused uncontrolled pressure spikes.	Shutdown unit for repairs.

Name	Start Time	End Time	Duration (min)	Cause (report)	Cause Description	Corrective Actions
SCC Pressure	7/28/2016 1:56	7/28/2016 1:56	0.12	Malfunction Control Equipment	Scrubber plugging and controller malfunction caused uncontrolled pressure spikes.	Shutdown unit for repairs.
SCC Pressure	7/28/2016 17:16	7/28/2016 17:16	0.07	Malfunction Control Equipment	Scrubber plugging and controller malfunction caused uncontrolled pressure spikes.	Shutdown unit for repairs.
SDA ECIS Flow	7/29/2016 12:48	7/29/2016 13:13	25.98	Malfunction ECIS motor	A bad fuse on the ECIS motor caused flow loss.	Shutdown ECIS and repaired. Restarted unit.
SDA ECIS Pressure	7/29/2016 12:53	7/29/2016 13:43	49.42	Malfunction ECIS motor	A bad fuse on the ECIS motor caused flow loss.	Shutdown ECIS and repaired. Restarted unit.
SCC Pressure	7/30/2016 1:30	7/30/2016 1:30	0.05	Malfunction Clinker Fell	Clinker ash fell from kiln into quench causing pressure spike	Increased draft. Restarted unit.
THC	8/4/2016 8:25	8/4/2016 9:23	57.92	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restart unit. Reviewed waste feeds.
THC	8/5/2016 18:45	8/5/2016 19:41	56.70	Malfunction Lance Purge	Plug and purge of direct feed line caused poor combustion.	Cleared line. Restarted unit.
** The previously listed 10 malfunctions occurred within a 60-day block period and have been reviewed in accordance with 63.1206(c)(2)(v)(3)(ii). Some OPL exceedances have been counted as a singular malfunction because they were the result of single initiating malfunction. Plugging in the scrubber on 7/27/16 caused several OPLs to be exceeded on 7/27 and 7/28. Upon review of the other individual malfunctions, HTS has determined that these 10 events were not the result of a common problem and no resulting changes have been made to the SSMP.						
Lance Atomization	8/6/2016 20:08	8/6/2016 20:09	0.48	Malfunction Control equipment	Compressor shutdown caused loss of atomizing pressure.	Shutdown lance. Repaired compressor.
SCC Pressure	8/10/2016 0:21	8/10/2016 0:21	0.00	Malfunction Combustion Anomaly	Unexpected combustion upset caused brief pressure spike.	Restart unit. Revised processing as precaution.
THC	8/13/2016 1:40	8/13/2016 2:39	59.92	Malfunction Instrument	Instrument malfunction caused inadvertent waste feed.	Restarted unit. Rebooted instrument.
SCC Pressure	8/13/2016 16:55	8/13/2016 16:55	0.02	Malfunction Combustion Anomaly	Unexpected combustion upset caused brief pressure spike.	Increased draft. Restarted unit.
SCC Pressure	8/14/2016 21:25	8/14/2016 21:25	0.05	Malfunction Clinker Fell	Clinker ash fell from kiln into quench causing pressure spike	Increased draft. Restarted unit.
THC	8/15/2016 12:12	8/15/2016 13:11	59.87	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restart unit. Reviewed waste feeds.
THC	8/15/2016 18:06	8/15/2016 19:03	56.83	Malfunction Lance Purge	Plug and purge of direct feed line caused poor combustion.	Cleared line. Restarted unit.

Name	Start Time	End Time	Duration (min)	Cause (report)	Cause Description	Corrective Actions
SCC Pressure	8/17/2016 23:16	8/17/2016 23:16	0.03	Malfunction Instrument	Instrument malfunction caused inadvertent AWFCO.	Restarted unit. Checked instruments.
THC	8/25/2016 15:38	8/25/2016 15:59	20.97	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restart unit. Reviewed waste feeds.
THC	8/27/2016 0:11	8/27/2016 1:10	59.82	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restart unit. Reviewed waste feeds.
** The previously listed 10 malfunctions occurred within a 60-day block period and have been reviewed in accordance with 63.1206(c)(2)(v)(3)(ii). Upon review of the individual malfunctions, HTS has determined that several of these 10 events which were classified as unexplained and unpreventable combustion anomalies may have resulted from unfavorable incinerator conditions. However, since these issues were intermittent, it was not possible to confirm or identify the exact nature or cause of the poor combustion conditions. No resulting changes have been made to the SSMP.						
THC	8/29/2016 11:27	8/29/2016 12:27	59.88	Malfunction Instrument	Malfunction of combustion air controller caused THC spike.	Manually opened damper. Restarted unit.
THC	8/29/2016 15:01	8/29/2016 16:01	60.00	Malfunction Instrument	Malfunction of combustion air controller caused THC spike.	Manually opened damper. Restarted unit.
SCC Pressure	8/31/2016 20:34	8/31/2016 20:34	0.02	Malfunction Boiler Plugging	System plugging causing minimal control of draft.	Outage 9/5/16 to clear system.
THC	9/1/2016 12:44	9/1/2016 13:43	58.37	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restart unit. Reviewed waste feeds.
SCC Pressure	9/1/2016 17:58	9/1/2016 17:58	0.05	Malfunction Clinker Fell	Small ash fall in SCC caused minor pressure trip.	Increased draft. Restarted unit.
SCC Pressure	9/2/2016 11:55	9/2/2016 23:55	0.20	Malfunction Lance Purge	Plug and purge of direct feed line caused pressure trip.	Cleared line. Restarted unit
THC	9/2/2016 12:21	9/2/2016 13:19	58.82	Malfunction Lance Purge	Plug and purge of direct feed line caused combustion upset.	Cleared line. Restarted unit
THC	9/4/2016 9:47	9/4/2016 10:46	58.83	Malfunction Lance Slagging	Heavy slagging on fuel lances caused poor combustion and THC.	Shutdown and cleaned lances.
THC	9/4/2016 21:14	9/4/2016 22:13	59.05	Malfunction Lance Slagging	Heavy slagging on fuel lances caused poor combustion and THC.	Shutdown and cleaned lances.
THC	9/8/2016 5:33	9/8/2016 6:32	58.42	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restart unit. Reviewed waste feeds.
** The previously listed 10 malfunctions occurred within a 60-day block period and have been reviewed in accordance with 63.1206(c)(2)(v)(3)(ii). Some OPL exceedances have been counted as a singular malfunction because they were the result of single initiating malfunction. Upon review of the individual malfunctions, HTS has determined that these 10 events were not the result of a common problem and no resulting changes have been made to the SSMP.						
Total PB Flow	9/9/2016 13:38	9/9/2016 13:56	18.13	Malfunction Scrubber Maintenance	Manual WFCO to repair scrubber piping.	Repaired piping. Restarted unit.

Name	Start Time	End Time	Duration (min)	Cause (report)	Cause Description	Corrective Actions
THC	9/10/2016 3:08	9/10/2016 3:49	41.25	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restart unit. Reviewed waste feeds.
ESP Field #1 Current	9/10/2016 14:28	9/10/2016 15:01	33.85	Malfunction Ash Build-up	Ash build-up on ESP field caused shutdown for cleaning.	Increased rapping. Restarted unit.
SCC Pressure	9/21/2016 1:36	9/21/2016 1:36	0.00	Malfunction Customer Packaging	Customer packaging error caused combustion upset and THC.	Restarted unit. Contacted customer.
RJ DP	9/26/2016 13:01	9/26/2016 13:23	21.92	Malfunction Scrubber Pump	Ring jet pump failure led to WFCO for repairs.	Repaired pump/ Restarted unit.
SCC Pressure	9/27/2016 5:51	9/27/2016 5:51	0.02	Malfunction Clinker Fell	Small ash fall in SCC cause brief pressure spike.	Increased draft. Restarted unit.
THC	9/30/2016 8:32	9/30/2016 9:32	60.08	Malfunction Lance Purge	Plug and purge of the direct feed line caused THC.	Cleared line. Restarted unit.
SCC Pressure	10/9/2016 15:36	10/9/2016 15:36	0.23	Malfunction Clinker Fell	Ash fall from SCC to quench caused pressure event.	Increased draft. Restarted unit.
SCC Temperature	10/9/2016 15:49	10/9/2016 17:43	114.45	Malfunction Prior AWFCO	Ash fall at 1536 cause AWFCO leading to CMS problem	Cleaned lasers. Restarted unit.
SCC Pressure	10/19/2016 5:34	10/19/2016 5:34	0.05	Malfunction Clinker Fell	Ash fall from SCC to quench caused pressure event.	Increased draft. Restarted unit.
THC	10/19/2016 5:39	10/19/2016 6:38	58.92	Malfunction Prior AWFCO	Ash fall caused AWFCO leading to combustion upset.	Restarted unit
** The previously listed 10 malfunctions occurred within a 60-day block period and have been reviewed in accordance with 63.1206(c)(2)(v)(3)(ii). Some OPL exceedances have been counted as a singular malfunction because they were the result of single initiating malfunction. This is the case on 10/19 where a clinker fall caused two OPL exceedances. Upon review of the individual malfunctions, HTS has determined that these 10 events were not the result of a common problem and no resulting changes have been made to the SSMP.						
SCC Temperature	10/19/2016 14:57	10/19/2016 17:18	140.95	Shutdown Refractory Loss	Loss of refractory led to immediate unit shutdown	Maintenance outage. Repairs made.
Kiln Temperature	10/19/2016 15:08	10/19/2016 17:18	130.08	Shutdown Refractory Loss	Loss of refractory led to immediate unit shutdown	Maintenance outage. Repairs made.
THC	10/19/2016 15:25	10/19/2016 17:18	112.37	Shutdown Refractory Loss	Loss of refractory led to immediate unit shutdown	Maintenance outage. Repairs made.
SDA ECIS Pressure	10/19/2016 15:45	10/19/2016 17:18	92.22	Shutdown Refractory Loss	Loss of refractory led to immediate unit shutdown	Maintenance outage. Repairs made.
Scrubber ECIS Pressure	10/19/2016 15:58	10/19/2016 17:18	79.22	Shutdown Refractory Loss	Loss of refractory led to immediate unit shutdown	Maintenance outage. Repairs made.

Name	Start Time	End Time	Duration (min)	Cause (report)	Cause Description	Corrective Actions
ESP Field #2 Current	10/19/2016 16:07	10/19/2016 17:18	70.30	Shutdown Refractory Loss	Loss of refractory led to immediate unit shutdown	Maintenance outage. Repairs made.
RJ DP	10/19/2016 16:19	10/19/2016 17:18	58.40	Shutdown Refractory Loss	Loss of refractory led to immediate unit shutdown	Maintenance outage. Repairs made.
RJ Sump Level	10/19/2016 16:53	10/19/2016 17:18	25.00	Shutdown Refractory Loss	Loss of refractory led to immediate unit shutdown	Maintenance outage. Repairs made.
THC	11/4/2016 11:22	11/4/2016 11:24	2.05	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restart unit. Reviewed waste feeds.
THC	11/4/2016 23:02	11/5/2016 0:05	63.20	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restart unit. Reviewed waste feeds.
THC	11/12/2016 17:33	11/12/2016 17:50	16.10	Malfunction Lance Plugging	Plugging of the sludge 2 lance caused poor combustion	Cleared lance. Restarted unit.
THC	11/18/2016 17:38	11/18/2016 17:40	2.13	Malfunction Instrument	Compressor malfunction caused poor lance atomization.	Repaired compressor. Restarted unit.
Lance Atomization	11/18/2016 18:43	11/18/2016 18:50	7.30	Malfunction Instrument	Compressor malfunction caused loss of atomizing air to lances.	Repaired compressor. Restarted unit.
Lance Atomization	11/19/2016 10:22	11/19/2016 10:27	4.62	Malfunction Instrument	Compressor malfunction caused loss of atomizing air to lances.	Repaired compressor. Restarted unit.
THC	11/23/2016 2:51	11/23/2016 3:25	33.95	Malfunction Lance Plugging	Plugging of the high btu lance caused poor combustion	Cleared lance. Restarted unit.
THC	11/26/2016 12:16	11/26/2016 13:18	62.02	Malfunction Lance Plugging	Plugging of the high btu lance caused poor combustion	Cleared lance. Restarted unit.
THC	12/1/2016 22:45	12/1/2016 23:24	39.02	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restart unit. Reviewed waste feeds.
** The previously listed 10 malfunctions occurred within a 60-day block period and have been reviewed in accordance with 63.1206(c)(2)(v)(3)(ii). OPL exceedances on 10/19 resulted from an immediate shutdown of the incinerator when it was discovered that refractory had fallen out of the unit. To avoid damaging the unit, the incinerator was shutdown. OPLs related to this event have been counted as a singular malfunction because they were the result of single initiating malfunction event. Upon review of the other individual malfunctions, HTS has determined that these 10 events were not the result of a common problem and no resulting changes have been made to the SSMP.						
THC	12/11/2016 14:57	12/11/2016 15:43	45.82	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restart unit. Reviewed waste feeds.
THC	12/15/2016 13:20	12/15/2016 14:18	58.20	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restart unit. Reviewed waste feeds.
THC	12/15/2016 18:34	12/15/2016 19:28	54.20	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restart unit. Reviewed waste feeds.
THC	12/16/2016 3:01	12/16/2016 3:54	53.10	Malfunction Lance Plugging	Plugging of the direct feed lance caused combustion upset.	Cleared lance. Restarted unit.

Name	Start Time	End Time	Duration (min)	Cause (report)	Cause Description	Corrective Actions
SCC Pressure	12/16/2016 12:47	12/16/2016 12:48	1.02	Malfunction Clinker Fell	Small ash fall caused brief pressure spike.	Maintained draft. Restarted unit.
THC	12/18/2016 12:11	12/18/2016 12:25	14.08	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restart unit. Reviewed waste feeds.
THC	12/19/2016 16:55	12/19/2016 17:55	59.87	Malfunction Lance Plugging	Plugging of the high btu lance caused poor combustion	Cleared lance. Restarted unit.
THC	12/22/2016 3:43	12/22/2016 4:30	47.40	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restart unit. Reviewed waste feeds.
SCC Pressure	12/22/2016 20:42	12/22/2016 20:43	1.07	Malfunction Clinker Fell	Small ash fall caused brief pressure spike.	Increased draft. Restarted unit.
SCC Temperature	12/22/2016 20:55	12/22/2016 21:52	57.88	Malfunction Instrument	Monitoring device coated with ash following clinker fall	Cleaned laser. Restarted unit.
SCC Pressure	12/27/2016 21:51	12/27/2016 21:54	3.12	Malfunction Clinker Fell	Small ash fall caused brief pressure spike.	Increased draft. Restarted unit.
** The previously listed 10 malfunctions occurred within a 60-day block period and have been reviewed in accordance with 63.1206(c)(2)(v)(3)(ii). Upon review of the individual malfunctions, HTS has determined that several of these 10 events which were classified as unexplained and unpreventable combustion anomalies may have resulted from unfavorable incinerator conditions. However, since these issues were intermittent, it was not possible to confirm or identify the exact nature or cause of the poor combustion conditions. Of the individual malfunction events, HTS noticed an increase in the number of clinker fall events. This trend continued for several days after. During this time, HTS worked to identify the cause of these ash fall and adjusted to waste mix in the bulk solid pits. Additionally, HTS increased sampling of both the residuals from the ash fall and the feed streams. Following these actions, the ash falls subsided. No resulting changes have been made to the SSMP.						
SCC Pressure	12/28/2016 0:07	12/28/2016 0:25	18.25	Malfunction Clinker Fell	Small ash fall caused brief pressure spike.	Increased draft. Restarted unit.
SCC Pressure	12/28/2016 8:05	12/28/2016 8:05	0.48	Malfunction Clinker Fell	Ash fall caused pressure and other OPL events	Restarted unit. Adjusted feeds.
SCC Temperature	12/28/2016 8:12	12/28/2016 9:10	57.88	Malfunction Prior AWFCO	Ash fall caused pressure and other OPL events	Restarted unit. Adjusted feeds.
THC	12/28/2016 8:20	12/28/2016 9:08	48.97	Malfunction Prior AWFCO	Ash fall cause combustion upset and THC.	Restarted unit. Adjusted feeds.
SCC Temperature	12/28/2016 9:22	12/28/2016 9:29	7.83	Malfunction Instrument	Ash build-up on temp probe caused bad readings.	Cleaned probe. Restarted unit.
SCC Pressure	12/28/2016 17:31	12/28/2016 17:38	6.20	Malfunction Clinker Fell	Small ash fall caused brief pressure spike.	Increased draft. Restarted unit.
SCC Pressure	12/28/2016 20:46	12/28/2016 20:49	3.70	Malfunction Clinker Fell	Small ash fall caused brief pressure spike.	Increased draft. Restarted unit.

Name	Start Time	End Time	Duration (min)	Cause (report)	Cause Description	Corrective Actions
THC	12/29/2016 21:27	12/29/2016 21:56	29.17	Malfunction Combustion Anomaly	Unexpected combustion upset caused THC and AWFCO.	Restarted unit. Reduced charges.
** The previously listed malfunctions occurred within a 60-day block period and have been reviewed in accordance with 63.1206(c)(2)(v)(3)(ii). Of the individual malfunction events, HTS noticed an increase in the number of clinker fall events. These event resulted in multiple OPL exceedances. During this time, HTS worked to identify the cause of these ash fall and adjusted to waste mix in the bulk solid pits. Additionally, HTS increased sampling of both the residuals from the ash fall and the feed streams. Following these actions, the ash falls subsided. No resulting changes have been made to the SSMP.						

C. Startup, Shutdown, or Malfunction Plan Revision History

DATE	Revision Number	Comment
9/30/2003	0	Initial Plan
2/27/2004	1	ESP OPLs added. Malfunction list updated.
6/23/2005	2	Revised section on operating modes.
10/27/2006	3	RCRA Permit modifications. Malfunction list updated.
3/15/2007	4	Malfunction list updated and comments added addressing instances beyond the operator's control.
6/6/2007	5	Malfunction list updated and further comments added addressing instances beyond the operator's control.
10/16/2007	6	Corrected minor deficiencies noted by OEPA.
9/1/2008	7	Revised to reflect facility name change
6/12/2009	8	This revision included, in Section 1.6.3.1, more detailed descriptions of the most common malfunction events that occur at the facility. It also included a description of data collection procedures during times when residence time expires while an exceedance event is taking place in Section 1.6.3.
2/9/2011	9	Revision created to reflect OPL changes resulting from the MACT CPT completed in 2010. Additionally, new malfunctions were added to Table 2-2.
5/1/2011	10	Revision incorporated a discussion of the exceedance investigation process and procedures. Table 2-2 was also slightly revised to include addition malfunctions.
7/5/2012	11	Revision 11 (7/5/2012) created to improve language surrounding the reporting and documentation during startup and shutdown events.
10/15/2013	12	Revision 12 (10/15/2013) created to account for facility name change.
6/4/2014	13	Revision 13 (6/4/2014) New malfunctions were added to Table 2-2.
6/30/2015	14	Revision 14 (6/30/2015) Updated new OPLS from MACT CPT.

SEMI-ANNUAL EXCESS EMISSION AND CMS REPORT

Section I – General Information

A. Facility Information

Facility ID:	02-15-0233
Responsible Official's Name / Title:	Stewart Fletcher / General Manager
Street Address:	1250 Saint George Street
City:	East Liverpool
State:	Ohio
Zip Code:	43920
Facility Name:	Heritage Thermal Services
Facility Local Contact Name:	Vincent Waggle Environmental Engineer

B. Relevant standard(s) or other requirement(s) that is/are the basis for this report:

63.10(e)(3) – Excess Emissions and Continuous Monitoring System Performance Report

C. Are you requesting a waiver of recordkeeping and/or reporting requirements under the applicable relevant standard(s) in conjunction with this report?

☐ Yes ☒ No

If you answered yes, you must submit the application for a waiver of recordkeeping and/or reporting requirements together with this report. The application for waiver should include whatever information you consider useful to convince the Administrator that a waiver of recordkeeping or recording is warranted. (63.10(f)(3))

D. Check the box that corresponds to the reports you are submitting:

☐ Summary Report Only (Complete Sections II and IV)

☒ Excess Emission and CMS Performance Report and Summary Report (Complete Sections II, III, and IV).

Section II – Certification

Based upon information and belief formed after a reasonable inquiry, I as a responsible official of the above-mentioned facility, certify the information contained in this report is accurate and true to the best of my knowledge.

Stewart Fletcher, General Manager

Signature: _____ Date: 1/30/17

Section III – Excess Emissions and CMS Performance Report

A. Excess Emissions

1. Have any excess emissions or exceedances of a parameter occurred during this reporting period?
☒ Yes ☐ No

2. If you answered yes, complete the following table for each period of excess emissions and/or parameter monitoring exceedances, as defined in the relevant standard(s), that occurred during periods other than startups, shutdowns, and/or malfunctions of your affected source. (63.10(c)(7)-(11))

See next page for completed table.

Name	Start Time	End Time	Duration (min)	Cause (report)	Cause Description	Corrective Actions
THC	7/12/2016 16:37	7/12/2016 17:34	56.90	Operator Error Feed Prep	Poor container prep led to poor combustion and THC.	Reduce charges. Restart unit.
SCC Pressure	7/17/2016 1:40	7/17/2016 1:40	0.02	Operator Error Feed Error	Restart unit. Space out feeds. Coordinate scheduling.	Root cause not immediately identified.
SCC Pressure	7/17/2016 1:55	7/17/2016 1:55	0.02	Operator Error Feed Error	Reactive metal drums caused pressure spikes in SCC.	Restart unit. Space out feeds. Coordinate scheduling.
SCC Pressure	7/17/2016 5:03	7/17/2016 5:04	0.03	Operator Error Feed Error	Reactive metal drums caused pressure spikes in SCC.	Restart unit. Space out feeds. Coordinate scheduling.
SCC Pressure	7/17/2016 6:19	7/17/2016 6:19	0.02	Operator Error Feed Error	Reactive metal drums caused pressure spikes in SCC.	Restart unit. Space out feeds. Coordinate scheduling.
SCC Pressure	7/17/2016 6:22	7/17/2016 6:22	0.02	Operator Error Feed Error	Reactive metal drums caused pressure spikes in SCC.	Restart unit. Space out feeds. Coordinate scheduling.
SCC Pressure	7/17/2016 10:25	7/17/2016 10:25	0.03	Operator Error Feed Error	Reactive metal drums caused pressure spikes in SCC.	Restart unit. Space out feeds. Coordinate scheduling.
SCC Pressure	7/17/2016 14:24	7/17/2016 14:24	0.05	Operator Error Feed Error	Reactive metal drums caused pressure spikes in SCC.	Restart unit. Space out feeds. Coordinate scheduling.
THC	7/23/2016 18:13	7/23/2016 19:15	61.93	Operator Error Feed Error	Incorrect processing caused poor combustion and THC.	Restart unit. Adjust processing.
THC	7/29/2016 7:36	7/29/2016 8:35	58.88	Operator Error Feed Prep	Poor feed prep caused poor combustion and THC.	Restarted unit. Revised profile requirements.
THC	8/12/2016 23:30	8/13/2016 0:29	58.95	Operator Error Feed Prep	Poor feed prep caused poor combustion and THC.	Restarted unit. Revised processing.

Name	Start Time	End Time	Duration (min)	Cause (report)	Cause Description	Corrective Actions
THC	8/17/2016 8:27	8/17/2016 9:27	59.32	Operator Error Feed Error	Incorrect container feed led to poor combustion and THC.	Restarted unit. Review processing.
THC	8/20/2016 12:27	8/20/2016 13:26	59.23	Operator Error Feed Prep	Poor feed prep caused poor combustion and THC.	Restarted unit. Revised processing.
THC	8/20/2016 13:58	8/20/2016 14:57	58.95	Operator Error Feed Prep	Poor feed prep caused poor combustion and THC.	Restarted unit. Revised processing.
THC	8/20/2016 15:57	8/20/2016 16:56	58.85	Operator Error Feed Prep	Poor feed prep caused poor combustion and THC.	Restarted unit. Revised processing.
SCC Pressure	8/22/2016 16:58	8/22/2016 16:58	0.10	Operator Error Combustion/APCD	Operator inadvertantly closed fan damper cusing draft loss.	Restarted unit. Reviewed with operator.
THC	11/15/2016 19:24	11/15/2016 20:22	57.92	Operator Error Feed Prep	Poor feed prep caused poor combustion and THC.	Restarted unit. Counseled manager.
THC	11/28/2016 2:55	11/28/2016 3:41	45.93	Operator Error Feed Prep	Poor feed prep caused poor combustion and THC.	Restarted unit. Counseled manager.
THC	11/29/2016 18:39	11/29/2016 19:15	36.98	Operator Error Feed Prep	Poor feed prep caused poor combustion and THC.	Restarted unit. Revised feed prep.

B. CMS Performance

1. Has a CMS been inoperative (except for zero/low-level and high-level checks), out of control (as defined in 63.8(c)(7)(i)), repaired, or adjusted during this reporting period? ☒ Yes ☐No

2. If you answered yes, complete the following table for each period a CMS was out of control, repaired, or adjusted: (63.10(c)(5)-(6), (10)-(12); 63.8(c)(8).

CMS Type	Mfg	Process ID	Start Date	Completion Date	Nature & Cause of Malfunction (if any)	Corrective Actions Taken or Preventative Measures Adopted	Nature of Repairs or Adjustments Made to Inoperable or OOC CMS
THC	CAI	Stack monitor #1	12/3/2016	6/27/2015	Calibration drift	Manual Recalibration	Manufacturer Recommended Procedure

3. Indicate the total process operating time during the reporting period. (63.10(c)(13))

Total process operating time (days):

Days in reporting period:	184
Facility total process operating time (days):	168.8
Total days on waste:	167.2
Total days on fuels:	1.62

Section IV – Summary Report – Gaseous and Opacity Excess Emissions and CMS Performance

A. Report Date and Submittal Reporting Period

Indicate the reporting period covered by this submittal and the date of this summary report. (63.10(e)(3)(vi))

Reporting Period beginning date	Reporting Period ending date	Summary Report Date
July 1, 2016	December 31, 2016	January 31, 2017

B. Process Description and Monitoring Equipment Information

Complete the following process description and monitoring equipment information table for each affected source process unit:

Total operating time of affected source during the reporting period (days)
240,800 minutes of unit burning/ retaining hazardous waste; 2,331 minutes on virgin fuels.

Process unit name
Rotary Kiln Incineration System

Process unit description
Rotary kiln and ancillary equipment for combustion of hazardous wastes.

Emission and/or operating parameter limitations specified in the relevant standards
See Table 1 and 2 below.

TABLE 1 – APPLICABLE EMISSIONS STANDARDS

Emissions Parameter	Limit	Citation
Destruction and Removal Efficiency (DRE)	≥99.99%	40 CFR 63.1203(c)(1)
PCDDs/PCDFs	≤0.20 ng/dscm TEQ basis	40 CFR 63.1219(a)(1)(i)
HCl/Cl_2	≤ 32 ppmv dry as HCl	40 CFR 63.1219(a)(6)
Mercury	≤ 130 µg/dscm	40 CFR 63.1219(a)(2)
Semi volatile Metals (SVM)	≤ 230 µg/dscm	40 CFR 63.1219(a)(3)
Low Volatile Metals (LVM)	≤ 92 µg/dscm	40 CFR 63.1219(a)(4)
Totals Hydrocarbons	≤ 10 ppmv	40 CFR 63.1219(a)(5)(ii)
Particulate Matter (PM)	≤ 0.013 gr/dscf or 34 mg/dscm	40 CFR 63.1219(a)(7)

TABLE 2 – OPERATING PARAMETERS

Process Parameter (Tag ID)	Units	Avg. Period	Basis	Limit
Minimum Feed Lance Atomization Pressure[1]	Psig	Instant.	Mfg. Rec.	30
Maximum SCC Pressure (PT-4307 & PT-4308)	In. w.c.	Reference September 4, 2003 letter from US EPA Region 5 concerning this requirement.		
Maximum Temperature at ESP Inlet (TI-6002A/B)	°F	1-hr	CPT	425.3
Maximum Pumpable Waste Feed Rate (WQI-9000T)	Lb/hr	1-hr	CPT	25,857
Maximum Total Waste Feed Rate (WQI-9000F)	Lb/hr	1-hr	CPT	31,513
Minimum Kiln Temperature (TI-4300A/B)	°F	1-hr	CPT	1,695
Minimum SCC Temperature (TI-4310A/B)	°F	1-hr	CPT	1,710
Maximum Process Gas Flow rate (FI-7510A/B)	Scfm	1-hr	CPT	67,119
Minimum Loc. 1 Carbon Feed Rate (WI-7003)	Lb/hr	1-hr	CPT	[redacted]
Minimum Loc. 2 Carbon Feed Rate (WI-7002)	Lb/hr	1-hr	CPT	
Minimum Loc. 1 Carbon Feed Pressure (PI-5732)	Psig	1-hr	CPT	3.0
Minimum Loc. 2 Carbon Feed Pressure (PI-7132)	Psig	1-hr	CPT	3.0
Maximum Ash Feed Rate (WQI-9000AH)	Lb/hr	12-hr	CPT	11,180
Minimum Ring Jet Pressure Drop (DPI-7401)	in. w.c.	1-hr	CPT	27.0
Minimum Scrubber (1st and 2nd Packed Bed, combined) Liquid Flow Rate (FQI-7201)	gpm	1-hr	CPT	1,291.7
Minimum Scrubber (Ring Jet) Liquid Flow Rate (FI-7404A/B)	gpm	1-hr	CPT	494.7
Minimum Scrubber (Ring Jet) Blowdown (FI-7403)	gpm	1-hr	CPT	19.2
Minimum Scrubber (Ring Jet) Tank Level (LIC-7401)	feet	1-hr	CPT	1.7
ESP Parameters	The ESP is operating with all fields available with set points of 45,000 volts and 90 sparks per minute, each field; and minimum current of 100 milliamps, each field (see US EPA letters dated Dec. 10 and Dec. 27, 2003).			
Minimum Scrubber (1st and 2nd Packed Bed, combined) Feed Pressure	in. w.c.	1-hr	Mfg. Rec.	Not Req'd.
Minimum Scrubber (1st and 2nd Packed Bed) Pressure Drop	in. w.c.	1-hr	Mfg. Rec.	1.3
Minimum Scrubber (3rd Stage) Liquid pH (AI-7307A/B)	pH units	1-hr	CPT	7.4
Maximum Total Chlorine Feed Rate (WQI-9000CL)	Lb/hr	12-hr	CPT	2,041
Maximum Total Semi volatile Metals Feed Rate (WQI-9000SV)	Lb/hr	12-hr	CPT	102.2
Maximum Total Low Volatile Metals Feed Rate (WQI-9000LV)	Lb/hr	12-hr	CPT	400
Maximum Total Pumpable Low Volatile Metals Feed Rate (WQI-9000PLV)	Lb/hr	12-hr	CPT	400
Maximum Total Mercury Feed Rate (WQI-9000M)	lb/hr	12-hr	CPT	0.33
Stack THC (AI-7850)	ppmv	1-hr	Regulatory Requirement	<10

[1] Each liquid lance has a pressure switch. When the pressure drops below 30 psig on any lance the feed from that lance will be automatically cut off. Tag Ids : PSL-3113 (High BTU), PSL-3123 (Organic), PSL-3143 (Aqueous), PSL-3133 (Sludge), PSL-3153 (Slurry), and PSL-3100A/B (Sludge 2).

Monitoring Equipment Information

Monitored Parameter	Instrument Description	Range and Units of Measurement	Tag Number	Last Calibration/Audit Date	Accuracy of Measurement
Power -ESP Field #1	Environmental Elements Controller	0 – 500 ma	EI-6700	1/29/2016	N/A
Power -ESP Field #2	Environmental Elements Controller	0 – 500 ma	EI-6710	1/29/2016	N/A
Power -ESP Field #3	Environmental Elements Controller	0 – 750 ma	EI-6720	1/29/2016	N/A
Scrubber Second Packed Bed Liquid PH	Electro-Chemical Devices	0 – 14 pH units	AT-7307A	Performed Weekly	± 5% of range
Scrubber Second Packed Bed Liquid PH	Electro-Chemical Devices	0 – 14 pH units	AT-7307B	Performed Weekly	± 5% of range
Scrubber 2nd Packed Bed Differential Pressure	Rosemount Transmitter /Pressure transducer	0 – 8 in w.c.	DPT-7307	10/25/2016	± 2% of range
Pumpable Feed Rate High BTU Lance	Micromotion Mass Flow Meter	0 – 10,000 lb/hr	FT-3110	2/17/2016	± 10% of range
Pumpable Feed Rate Organic Lance	Micromotion Mass Flow Meter	0 – 10,000 lb/hr	FT-3120	2/17/2016	± 10% of range
Pumpable Feed Rate Sludge Lance	Positive displacement pump (calculation)	0 – 15,000 lb/hr	FT-3130	Not Applicable (calculation)	N/A
Pumpable Feed Rate Aqueous Lance	Micromotion Mass Flow Meter	0 – 10,000 lb/hr	FT-3140	2/17/2016	± 10% of range
Pumpable Feed Rate Slurry Lance	Positive displacement pump (calculation)	0 – 15,000 lb/hr	FT-3150	Not Applicable (calculation)	N/A
Scrubber First Packed bed flow rate	PolySonics Doppler Flow	0 – 1,500 gpm	FT-7204A	2/10/2016	± 10% of range
Scrubber First Packed bed flow rate	Panametrics Ultrasonic Flow	0 – 1,500 gpm	FT-7204B	2/10/2016	± 10% of range
Scrubber Second Packed bed flow rate	PolySonics Doppler Flow	0 – 1,500 gpm	FT-7304A	2/10/2016	± 10% of range
Scrubber Second Packed bed flow rate	Panametrics Ultrasonic Flow	0 – 1,500 gpm	FT-7304B	2/10/2016	± 10% of range
Ring Jet Blow Down	Panametrics Ultrasonic Flow	0 – 500 gpm	FT-7403A	2/10/2016	± 10% of range
Ring Jet Blow Down	Panametrics Ultrasonic Flow	0 – 500 gpm	FT-7403B	2/10/2016	± 10% of range
Scrubber Ring Jet Liquid Flow Rate	Panametrics Ultrasonic Flow	0 – 1,500 gpm	FT-7404A	2/10/2016	± 10% of range
Scrubber Ring Jet Liquid Flow Rate	Panametrics Ultrasonic Flow	0 – 1,500 gpm	FT-7404B	2/10/2016	± 10% of range
Ring Jet Vessel Level	Rosemount Transmitter/ Pressure	0 – 5 feet	LT-7401A	10/25/2016	± 2% of range
Ring Jet Vessel Level	Rosemount Transmitter/ Pressure	0 – 5 feet	LT-7401B	10/25/2016	± 2% of range
Kiln Inlet Shroud (differential) Pressure (reference to SCC)	Rosemount Pressure transducer	0 - 10 in. w.c.	PDT-4308	5/16/2016	± 2% of range

Monitored Parameter	Instrument Description	Range and Units of Measurement	Tag Number	Last Calibration/Audit Date	Accuracy of Measurement
Kiln Outlet Shroud (differential) Pressure (reference to SCC)	Rosemount Pressure transducer	0 - 10 in. w.c.	PDT-4306	5/16/2016	± 2% of range
Kiln Inlet Shroud Pressure (reference to ambient)	Rosemount Pressure transducer	0 - 10 in. w.c.	PT-4307	5/16/2016	± 2% of range
Scrubber 1st Packed Bed Differential Pressure	Rosemount Transmitter /Pressure transducer	0 – 8 in w.c.	PDT-7207	10/25/2016	± 2% of range
Ring Jet Differential Pressure	Rosemount Transmitter/ Pressure	0 – 40 in w.c. (changed 2005)	PDT-7401A PDT-7405A	10/25/2016	± 2% of range
Ring Jet Differential Pressure	Rosemount Transmitter/ Pressure	0 – 40 in w.c. (changed 2005)	PDT-7401B PDT-7405B	10/25/2016	± 2% of range
Sludge 2 Lance Atomizing Pressure	Generic pressure switch	0 – 50 psi	PSL-3100A	5/16/2016	± 5% of range
Sludge 2 Lance Atomizing Pressure	Generic pressure switch	0 – 50 psi	PSL-3100B	5/16/2016	± 5% of range
High Btu Lance Atomizing Pressure	Generic pressure switch	0 – 50 psi	PSL-3113	5/16/2016	± 5% of range
Organic Lance Atomizing Pressure	Generic pressure switch	0 – 50 psi	PSL-3123	5/16/2016	± 5% of range
Sludge Lance Atomizing Pressure	Generic pressure switch	0 – 50 psi	PSL-3133	5/16/2016	± 5% of range
Aqueous Lance Atomizing Pressure	Generic pressure switch	0 – 50 psi	PSL-3143	5/16/2016	± 5% of range
Slurry Lance Atomizing Pressure	Generic pressure switch	0 – 50 psi	PSL-3153	5/16/2016	± 5% of range
Kiln / Secondary Combustion Chamber Pressure	Rosemount Transmitter / Pressure transducer	-3.5 - +2.5 in. w.c.	PT-4300A	WFCO Test done every 3 weeks	± 2% of range
Kiln / Secondary Combustion Chamber Pressure	Rosemount Transmitter / Pressure transducer	-3.5 - +2.5 in. w.c.	PT-4300B	WFCO Test done every 3 weeks	± 2% of range
Spray Dryer Carbon Carrier Fluid Pressure	Rosemount Transmitter / Pressure	0 – 15 psi	PT-5732	9/6/2016	± 2% of range
Scrubber Carbon Carrier Fluid Pressure	Rosemount Transmitter / Pressure	0 – 15 psi	PT-7132	9/6/2016	± 2% of range
ESP Inlet Temperature	Rosemount Transmitter / Thermocouple	0 - 600 °F	TT-6002A	WFCO Test done every 3 weeks	± 2% of range
ESP Inlet Temperature	Rosemount Transmitter / Thermocouple	0 - 600 °F	TT-6002B	WFCO Test done every 3 weeks	± 2% of range
Kiln Temperature	Land CD1 Thermometer	752 – 3272 °F	TT-4300A	5/5/2016	± 1% of range
Kiln Temperature	Land CD1 Thermometer	752 – 3272 °F	TT-4300B	1/27/2016	± 1% of range
Secondary Combustion Chamber Temperature	Land CD1 Thermometer	752 – 3272 °F	TT-4310A	4/9/2016	± 1% of range

Monitored Parameter	Instrument Description	Range and Units of Measurement	Tag Number	Last Calibration/Audit Date	Accuracy of Measurement
Secondary Combustion Chamber Temperature	Land CDI Thermometer	752 – 3272 °F	TT-4310B	3/11/2016	± 1% of range
Pumpable Feed Rate Direct Drum Scale A	Generic Load Cell (Loss in weight calculation)	0 – 5,000 lb	WT-3050	12/10/2016	± 3% of range
Pumpable Feeds Direct Drum Scale B	Generic Load Cell (Loss in weight calculation)	0 – 5,000 lb	WT-3055	12/10/2016	± 3% of range
Pumpable FeedsTanker Scale A (South Bay)	Generic Load Cell. Loss in weight calculation	0 – 80,000 lb	WT-3060	12/10/2016	± 3% of range
Pumpable Feeds Tanker Scale B (East Bay)	Generic Load Cell. Loss in weight calculation	0 – 100,000 lb	WT-3065	12/10/2016	± 3% of range
Conveyor Scale Drum Processing	Generic Load Cell (Scale)	0 – 2,000 lb	WT-3070 ARTS Data	12/10/2016	± 3% of range
Splitting Scale Drum Processing	Generic Load Cell (Scale)	0 – 5,000 lb	WT-3075 ARTS Data	12/10/2016	± 3% of range
Floor Scale Drum Processing Lab Pack	Generic Load Cell (Scale)	0 – 2,000 lb	WT-3080 ARTS Data	12/10/2016	± 3% of range
Kiln Bulk Feed Crane	Generic Load Cell (Scale)	0 – 10,000 lb	WT-3105	12/10/2016	± 3% of range
Scrubber Carbon Feed Rate	Generic Load Cell / Loss in Weight Feeder	0 – 50 lb/hr	WT-7002	12/10/2016	± 1% of range
Spray Dryer Carbon Feed Rate	Generic Load Cell / Loss in Weight Feeder	0 – 50 lb/hr	WT-7003	12/10/2016	± 1% of range
Total Hydrocarbon Analyzer (Stack)	California Analytical Instruments, Inc.	0 – 100 ppm 0 – 500 ppm as Propane	AI-7850A	11/18/2016	£ ± 5% of span
Total Hydrocarbon Analyzer (Stack)	California Analytical Instruments, Inc.	0 – 100 ppm 0 – 500 ppm as Propane	AI-7850B	11/18/2016	£ ± 5% of span
Stack Oxygen Analyzers (dry)	Ametek	0 – 25 %	AI-7860A	11/18/2016	± 1.0% Oxygen
Stack Oxygen Analyzers (dry)	Ametek	0 – 25 %	AI-7860B	11/18/2016	± 1.0% Oxygen
Stack Oxygen Analyzers (wet)	Ametek	0 – 25 %	AI-7865A	11/18/2016	± 1.0% Oxygen
Stack Oxygen Analyzers (wet)	Ametek	0 – 25 %	AI-7865B	11/18/2016	± 1.0% Oxygen
Flue Gas Flow Rate (Scrubber Outlet)	Calculation Stack - Reheat Flow	0 – 80,000 scfm	FT-7510A	11/18/2016	< 15% relative accuracy or < 7.5% of the applicable standard
Flue Gas Flow Rate (Scrubber Outlet)	United Sciences UltraSonic Gas Flow	0 – 80,000 scfm	FT-7510B	11/18/2016	< 15% relative accuracy or < 7.5% of the applicable standard
Flue Gas Flow Rate (Stack)	United Sciences UltraSonic Gas Flow	0 – 100,000 scfm	FT-7805A	11/18/2016	< 15% relative accuracy or < 7.5% of the applicable standard
Flue Gas Flow Rate (Stack)	Calculation Process + Reheat Flow	0 – 100,000 scfm	FT-7805B	11/18/2016	< 15% relative accuracy or < 7.5% of the applicable standard

C. Emission Data Summary

Complete the following emission data summary table for each affected source: (63.10(e)(3)(vi)(l))

Total duration of excess emission / parameter exceedances (minutes for opacity, hours for gases)

Excess Emissions	Total Duration(min)	Total Operating time of affected source during the reporting period (min)	% Of total source operating time during which excess emissions occurred
Maximum Ash Feed Rate (WQI-9000AH)	0	243,131	0.00%
Maximum Process Gas Flowrate (FI-7510A/B)	0	243,131	0.00%
Maximum Pumpable Waste Feed Rate (WQI-9000T)	0	243,131	0.00%
Maximum SCC Pressure (PI-4300A/B)	35.18	243,131	0.014%
Maximum Temperature at ESP Inlet (TI-6002A/B)	0	243,131	0.00%
Maximum Total Chlorine Feed Rate (WQI-9000CL)	0	243,131	0.00%
Maximum Total Low Volatile Metals Feed Rate (WQI-9000LV)	0	243,131	0.00%
Maximum Total Mercury Feed Rate (WQI-9000M)	0	243,131	0.00%
Maximum Total Pumpable Low Volatile Metals Feed Rate (WQI-9000PLV)	0	243,131	0.00%
Maximum Total Semi volatile Metals Feed Rate (WQI-9000SV)	0	243,131	0.00%
Maximum Total Waste Feed Rate (WQI-9000F)	0	243,131	0.00%
Minimum Feed Lance Atomization Pressure	23.65	243,131	0.01%
Minimum Kiln Temperature (TI-4300A/B)	197.7	243,131	0.08%
Minimum Loc. 1 Carbon Feed Pressure (PI-5732)	141.63	243,131	0.06%
Minimum Loc. 2 Carbon Feed Pressure (PI-7132)	79.22	243,131	0.03%
Minimum Loc. 1 Carbon Feed Rate (WI-7003)	106.03	243,131	0.04%
Minimum Loc. 2 Carbon Feed Rate (WI-7002)	74.98	243,131	0.03%
Minimum Ring Jet Pressure Drop (DPI-7401)	165.32	243,131	0.07%
Minimum SCC Temperature (TI-4310A/B)	440.92	243,131	0.18%
Minimum Scrubber (1st and 2nd Packed Bed) Pressure Drop	0	243,131	0.00%
Minimum Scrubber (1st and 2nd Packed Bed, combined) Liquid Flow Rate (FQI-7201)	18.13	243,131	0.01%
Minimum Scrubber (3rd Stage) Liquid pH (AI-7307A/B)	0	243,131	0.00%
Minimum Scrubber (Ring Jet) Blowdown (FI-7403)	0	243,131	0.00%
Minimum Scrubber (Ring Jet) Liquid Flow Rate (FI-7404A/B)	34.25	243,131	0.01%
Minimum Scrubber (Ring Jet) Tank Level (LIC-7401)	25	243,131	0.01%
THC	2444.28	243,131	1.01%
ESP Controls	104.15	243,131	0.04%
Total Duration	**3890.44**	**243,131**	**1.60%**

Summary of causes of excess emissions / parameter exceedances (% of total duration by cause):

TYPE	Sum Of Duration	% of Total Duration
Startup/shutdown	1123.6	28.88%
Control Equipment Problems	524.8	13.49%
Process Problems	775.7	19.94%
Other unknown causes	852.3	21.91%
Other known causes	614.1	15.79%
	3890.5	100.00%

D. CMS Performance Summary

Complete the following CMS performance summary table for each affected source: (63.10(e)(3)(vi)(J))

Total duration of CMS downtime[1]
0 minutes

Total operating time of affected source during the reporting period
243,131 min

Percent of total source operating time during which CMS were down
0.00 % [1]

[1] Heritage Thermal Services maintains redundant CMS equipment in most cases to prevent CMS downtime. There were no periods during this time that this redundancy did not prevent CMS downtime.

Summary of causes of CMS downtime (percent of downtime by cause)	Minutes
Monitoring equipment malfunctions	0
Non-monitoring equipment malfunctions	0
Quality assurance / quality control calibrations	0
Other known causes	0
Other unknown causes	0

E. CMS, Process, or Control Changes

1. Have you made any changes in CMS, processes, or controls since the last reporting period?
   ☐ Yes ☒No (if no, end of form) (63.10(2)(3)(vi)(K))

2. If you answered yes, please describe the changes below:

END OF REPORT

bcc: Env. Dept
Stewart Fletcher
Bob Buchheit
Kevin Lloyd

file name: environ/MACT/HWC MACT/exceedances/semiannual2016b

ECF: 2016/MACT/ Semiannual B